## REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested. No claims have been amended.

### Rejection of Claims 1-2, 5-7, 13-14, 17-19, 22-27, 30-31 and 34 under 35 U.S.C. §102(e)

Claims 1-2, 5-7, 13-14, 17-19, 22-27, 30-31 and 34 are rejected under 35 U.S.C. Section 102 as being anticipated by Chu et al. (U.S. Pat. 5,367,629) ("Chu et al."). Applicants traverse this rejection and submit these claims are patentable over Chu et al.

We first turn to claim 1. Claims 1 recites converting a block of image data into transform coefficients, quantizing the transform coefficients, constructing a single entity indicating which transform coefficients are non-zero and coding the single entity as an integer using an arithmetic coder wherein the values of the transform coefficients are coded in any fixed order. Applicants respectfully submit that Chu et al. fail to teach this step of coding the single entity as an integer using an arithmetic coder. In the Examiner's response to Applicant's arguments, the Examiner asserts that the step of coding the single entity as an integer using an arithmetic coder is taught by the vector pattern VLC which the Examiner states is "one kind" of arithmetic coding. Applicants have explained that Chu et al. do not teach this step of coding the single entity as an integer. The Examiner disagrees and asserts that variable length coding is performed as part of element 406 of Chu et al. shown in Fig. 13. The Examiner asserts that vector pattern VLC is an output of element 406 and also cites col. 14, lines 60-68 which corresponds to one kind of arithmetic coding. Applicants respectfully traverse this interpretation of Chu et al., noting that while the output of feature 406 of Fig. 13 states "Vector Pattern VLC," it is clear from the discussion in Chu et al. of the processing of the form vector 404 that the process of coding the form vector never occurs. The form vector is used to identify which VLC coefficients should be used in a table for coding the non-zero

quantized coefficients shown being connected to feature 408. In other words, the form vector 404 and the vector pattern PROM 406 with the output vector VLC is not a coding process of the form vector 404.

The fact that the form vector is not "coded" becomes clear in view of the discussion in col. 14, lines 15-68. In col. 14, Chu et al. discuss Fig. 13 and its processes. Detector 392 outputs a one if the coefficient from buffer 374 is non-zero and outputs a zero is the coefficient is zero. This 1-bit information is stored as the form vector in register 404. Thus, Chu et al. teach that 8-bit form vector represents a one for each of the non-zero coefficients in the particular zone with the remaining zone of coefficients being represented as 0 in the form vector. This form vector is sent to one of the programmable PROMs which correspond to zones for selecting an appropriate vector pattern variable length code (VLC) as one of the outputs of vector mapping block 344.

Column 14 continues to explain that the quantized DCT coefficient from buffer 374 selected at address X, Y is also applied to another PROM 408 where the non-zero quantized coefficients are also coded in accordance with the lookup table to generate a coefficient's variable lengths code (VLC). Column 14 continues to layout the coding procedure as follows: (1) classify the pattern of zero/non-zero Transform coefficient for zone 1; (2) map the pattern for Zone 1 into Variable Length Codes (VLC); (3) group non-zero coefficients into pairs by pairing the successive frequency coefficients; (4) for each pair of coefficients, look up the coefficient pair in a pre-stored PROM and send the lookup value as the output; (5) repeat steps 1-4 up to zone n. Applicants respectfully submit that while Fig. 13 shows VLC coded coefficient as the output of block 408, the output of 406 is not a coded form vector 408 but rather the vector pattern for use in the VLC process. This is further evidenced by Fig. 14, in which the input to the vector pattern PROM 432 is listed as vector pattern used, whereas, the input to coefficient inverse VLC 434 is the coefficient VLC. These two pieces

of data are further used in block 436 to match non-zero patterns with coefficients. Furthermore, as stated in col. 14, line 33, the form vector having been sent to one of the PROMs is used for selecting an appropriate vector pattern variable length code (VLC) as one of the outputs of the vector mapping block 344 which block is shown in Fig. 9.

In sum, Applicants respectfully submit that a careful review of the teachings of Chu et al. reveals that the form vector that the Examiner equates with the single entity constructed according to claim 1 of the present application is not coded as an integer using an arithmetic coder wherein the values of the transformed coefficients are coded in any fixed order. Accordingly, since this feature is not taught by Chu et al., Applicants respectfully submit that claim 1 is patentable and in condition for allowance. Claims 2-7 depend from claim 1 and recite further limitations there from. Accordingly these claims are patentable and are in condition for allowance as well.

Claim 13 recites a bitstream with similar limitations of those discussed above, accordingly claim 13 and its dependent claims 14-17 are patentable and in condition for allowance.

Claim 18 recites a computer-readable medium having similar limitations to those discussed above. Accordingly claim 18 and dependent claims 19-22 are patentable and in condition for allowance.

Claim 23 also recites a similar limitation to that discussed above. Accordingly, claim 23 and dependent claims 24-29 are patentable and in condition for allowance.

Similarly, claims 30-34 are also patentable and in condition for allowance.

**Rejection of Claims 3-4, 10, 15-16, 20-21, 28-29 and 32-33 under 35 U.S.C. §103(a)**

The Examiner has also rejected claims 3-4, 10, 15-16, 20-21, 28-29 and 32-33 under 35 U.S.C. Section 103(a) as being unpatentable over Chu et al. in view of Morihara, et al. (U.S. Pat. 6,542,6 40) ("Morihara et al."). Applicants traverse this rejection for the same reasons set forth in the November 2005 Response. Applicants submit that by preponderance of the evidence, one of skill in the art would not have sufficient motivation to combine Chu et al. with Morihara et al. Applicants respectfully reaffirm those arguments and submit that there is not sufficient motivation to combine these references. The reason is that Chu et al. clearly focus on video and video compression and transmission over a 14.4 kbps bandwidth, whereas Morihara et al. focus on a dictionary in which a character train serving as a processing unit upon compression has been registered and stored in a storing unit. The Examiner has failed to provide a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the reference. Again, the Examiner has only stated that the motivation to combine these references is because they are from "the same field of endeavor". Applicants incorporate the arguments previously presented in as much as on the balance in the record as it stands now, there is more evidence against the combination of these references than there is for the combination of these references. Accordingly Applicants submit that claims 3-4, 10, 15-16, 20-21, 28-29 and 32-33 are patentable over Chu et al. in view of Morihara et al.

## CONCLUSION

Having addressed all rejections and objections, Applicants respectfully submit that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

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